

CLAIMS

1. A crosslinked polymeric bead comprising a polymer having from 0.5 mole percent to 2 mole percent crosslinker; wherein said bead has a diameter no greater than 200 μm , no void spaces having a diameter greater than 5 μm , and less than 5 weight percent of organic extractables.
2. The crosslinked polymeric bead of claim 1 in which the polymer has from 0.5% to 1.6% crosslinker and the bead has a diameter no greater than 170 μm .
3. The crosslinked polymeric bead of claim 2 in which the polymer is a styrene polymer with a divinylbenzene crosslinker.
- 10 4. The crosslinked polymeric bead of claim 3 in which the polymer has from 0.7 mole percent to 1.2 mole percent crosslinker and the bead has no void spaces having a diameter greater than 3 μm , and less than 3 weight percent of organic extractables.
5. The crosslinked polymeric bead of claim 4 in which the bead has a diameter no greater than 150 μm .
- 15 6. A method for producing a lightly crosslinked polymeric bead having no void spaces having a diameter greater than 5 μm ; said method comprising steps of:
 - (a) preparing a suspension polymerization mixture in a vessel; said mixture comprising: (i) a monomer mixture comprising at least one vinyl monomer and at least one crosslinker; and (ii) from 0.25 mole percent to 1.5 mole percent of at least one free radical initiator;
 - (b) removing oxygen from the suspension polymerization mixture and the vessel by introducing an inert gas for a time sufficient to produce an atmosphere in the vessel containing no more than 5 percent oxygen;
 - (c) allowing the monomer mixture to polymerize; and
 - (d) washing the bead with an aprotic organic solvent.
- 25 7. The method of claim 6 in which the monomer mixture contains from 0.5 mole percent to 2 mole percent of at least one crosslinker.
8. The method of claim 7 in which the atmosphere in the vessel contains no more than 2 percent oxygen.
- 30 9. The method of claim 8 in which said at least one vinyl monomer comprises at least 90 mole percent styrene, said at least one crosslinker comprises divinylbenzene, and the bead has a diameter no greater than 200 μm .

10. A lightly crosslinked polymeric bead having no void spaces having a diameter greater than 5 μm ; said bead produced by a method comprising steps of:
- (a) preparing a suspension polymerization mixture in a vessel; said mixture comprising: (i) a monomer mixture comprising at least one vinyl monomer and at least one crosslinker; and (ii) from 0.25 mole percent to 1.5 mole percent of at least one free radical initiator;
- (b) removing oxygen from the suspension polymerization mixture and the vessel by introducing an inert gas for a time sufficient to produce an atmosphere in the vessel containing no more than 5 percent oxygen;
- (c) allowing the monomer mixture to polymerize; and
- (d) washing the bead with an aprotic organic solvent.